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UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 6,796,418 B1  
DATED : September 28, 2004  
INVENTOR(S) : Harrison et al.

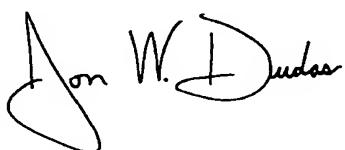
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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Drawing sheets, consisting of Fig. 1 thru Fig. 8, should be deleted and replaced with the drawing sheets, consisting of Fig. 1 thru Fig. 8, as shown on the attached pages.

Signed and Sealed this

First Day of March, 2005



JON W. DUDAS  
*Director of the United States Patent and Trademark Office*

(12) **United States Patent**  
Harrison et al.

(10) **Patent No.:** US 6,796,418 B1  
(45) **Date of Patent:** Sep. 28, 2004

(54) **ADDITION OF INTERMEDIATE SUPPORTS  
FOR SPIRAL CONVEYORS**

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(73) **Assignee:** KVP Corporation, Reading, PA (US)

(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** 10/607,126

(22) **Filed:** Jun. 26, 2003

(51) **Int. Cl.7** B65G 13/02; B65G 21/00

(52) **U.S. Cl.** 198/778; 198/861.1

(58) **Field of Search** 198/778, 860.1, 198/860.2, 861.1

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

3,260,350 A	• 7/1966	Martin	198/602
3,826,352 A	7/1974	Van Zon et al.	
3,857,476 A	• 12/1974	Heifetz et al.	198/778
4,013,167 A	• 3/1977	Bourgeois	198/860.2
4,325,480 A	4/1982	Butt	
4,901,844 A	2/1990	Palmaer et al.	
4,932,516 A	6/1990	Andersson	
5,111,929 A	5/1992	Pierick et al.	
5,186,314 A	2/1993	Clopton	
5,310,045 A	• 5/1994	Palmaer et al.	198/778

5,328,020 A	7/1994	Clopton	
5,454,467 A	• 10/1995	Lago	198/831
5,584,377 A	• 12/1996	Lago	198/841
5,768,056 A	8/1998	Clopton	
5,813,687 A	9/1998	Ledingham	
6,296,111 B1	10/2001	Mekanik et al.	
6,484,379 B2	11/2002	Palmaer	
6,523,679 B1	2/2003	Manchester	
6,533,106 B1	3/2003	Ledingham	
6,666,322 B2	• 12/2003	Biondi et al.	198,347.1

\* cited by examiner

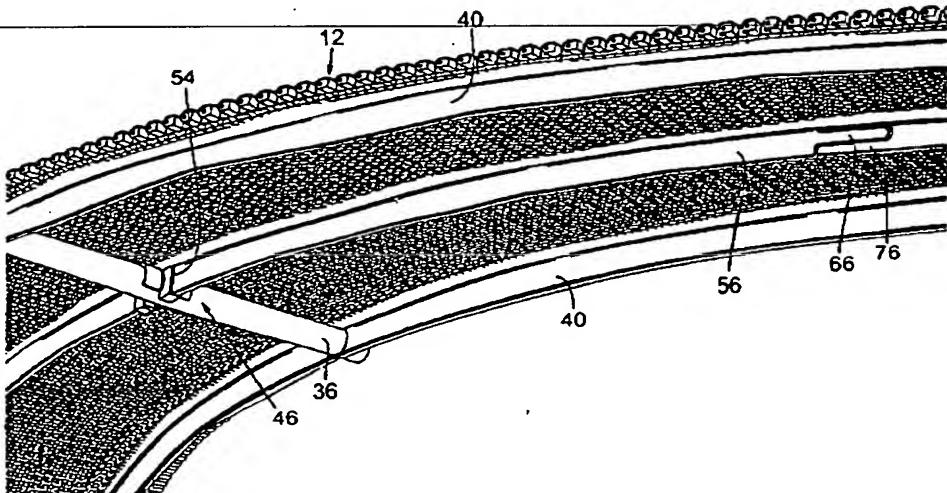
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(57) **ABSTRACT**

A helical or "spiral" conveyor belt system is retrofitted with further belt supports, added between existing belt supports, when needed for heavier loading, preferably without removing the belt from the spiral support structure. The additional support apparatus includes a series of snap-on plastic brackets, to be snapped over the cantilevered bars that extend horizontally inwardly at intervals to support the belt. These brackets form channels within which a set of metal rail members are held, the rail members being in sections securable together around the helical path. A U-shaped wear strip, preferably continuous, is placed down over the metal rails after assembly. This rail addition can be accomplished without removal of the belt, which can be lifted in place sufficiently to assemble the intermediate support components.

22 Claims, 7 Drawing Sheets



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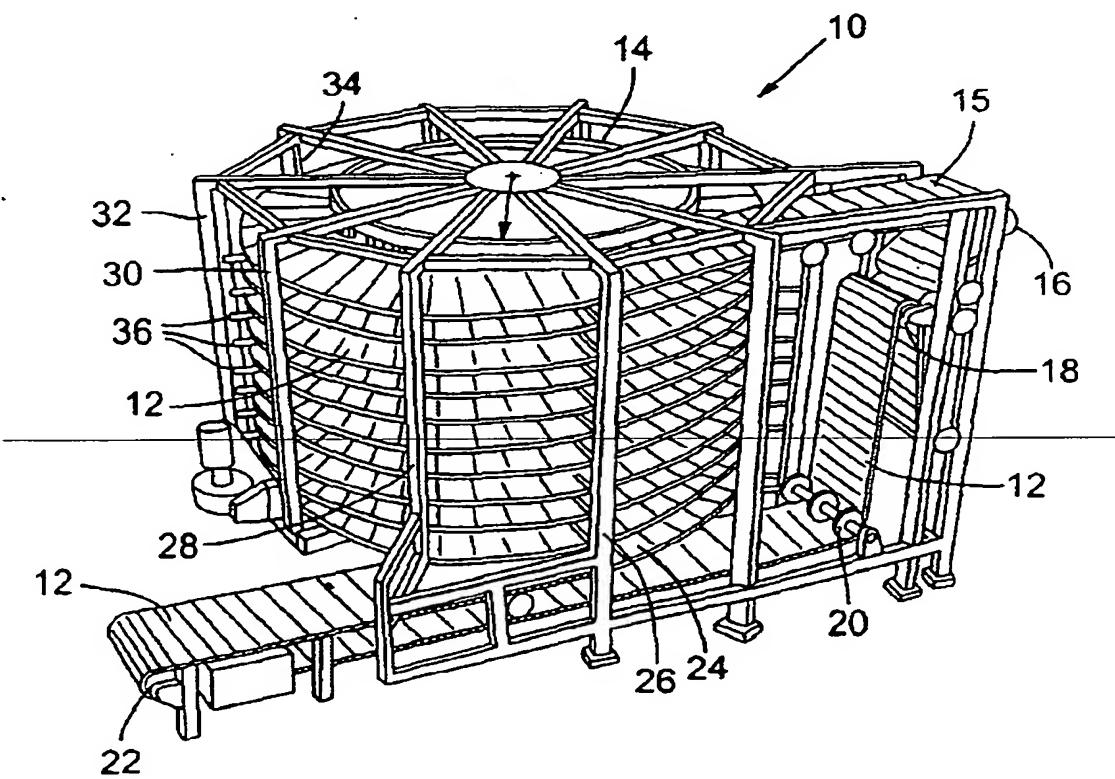


FIG. 1 Prior Art

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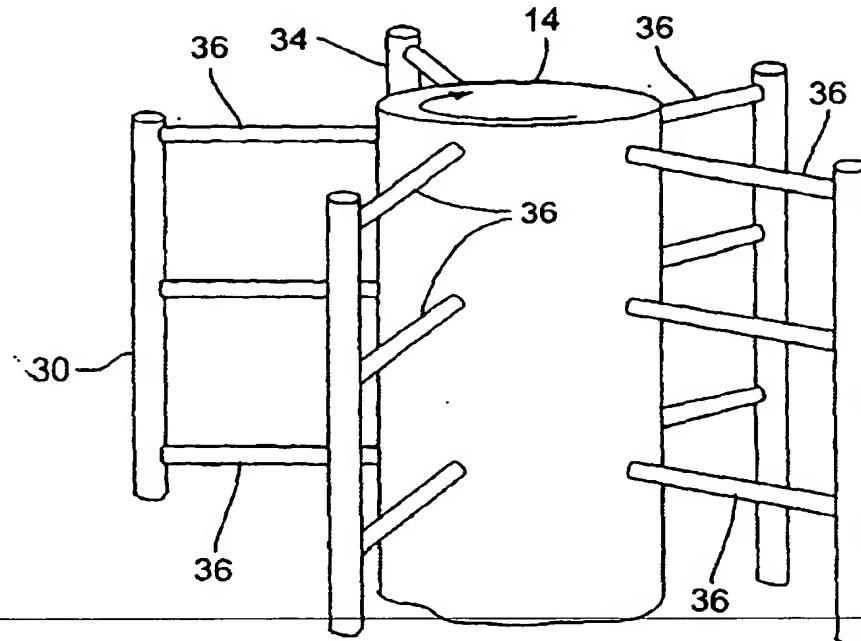


FIG. 2 Prior Art

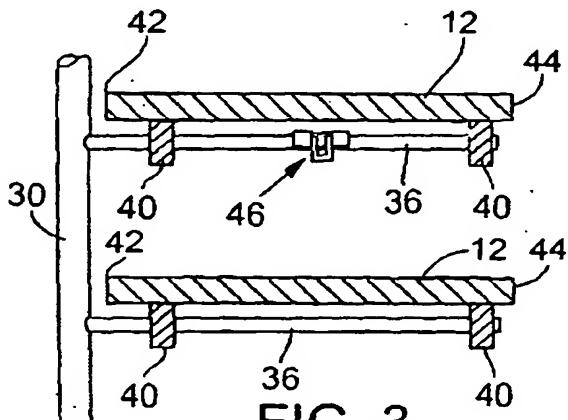


FIG. 3

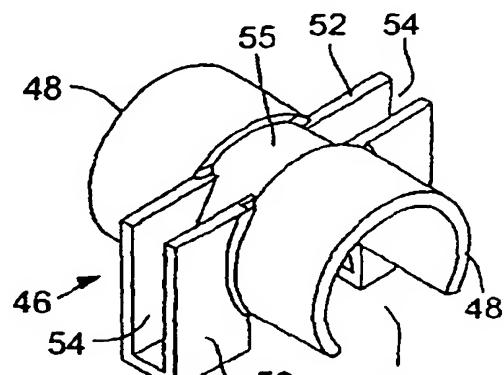


FIG. 4

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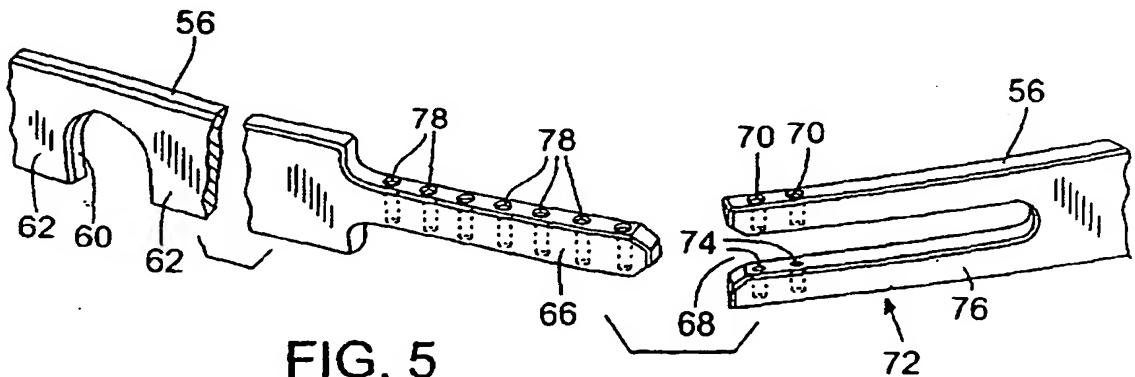


FIG. 5

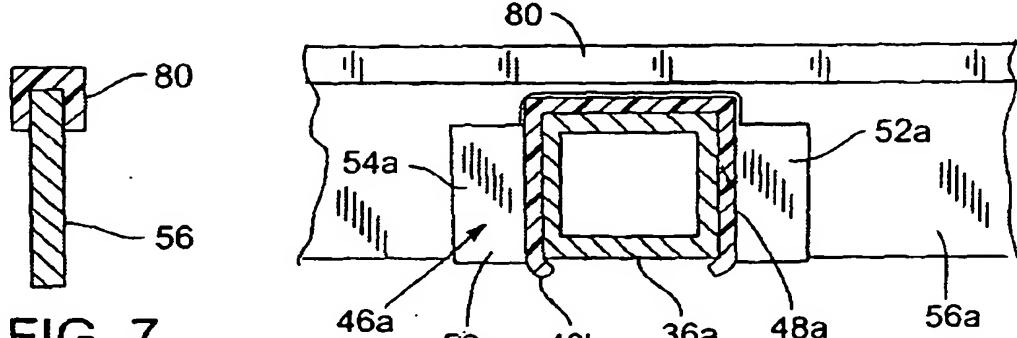


FIG. 7

FIG. 8

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